This document contains the installation and operating instructions for:

MODEL: FR69BG AUTOBROIL™

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER

FLAMMABLE VAPORS OR LIQUIDS IN THE

VICINITY OF THIS OR ANY OTHER APPLIANCE.

INSTRUCTIONS TO PURCHASER:

1. ANSI Z83.11 STANDARDS REQUIRE THAT YOU POST IN A PROMINENT LOCATION THE PROCEDURES TO FOLLOW IN THE EVENT THE USER SMELLS GAS. THIS INFORMATION SHALL BE OBTAINED FROM THE LOCAL GAS SUPPLIER.

2. THIS MANUAL NEEDS TO BE RETAINED FOR FUTURE REFERENCE.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

128190 RV012899

ILLUSTRATIONS

MODEL FR69BG TABLE OF CONTENTS

I. MACHINE SETTINGS

AUTOBROIL™

MODEL: FR69BG

SERIAL NUMBER: _____

TYPE OF GAS: _____

BROILER HIGH/LOW TEMPERATURE SETTING: _____

GAS PRESSURE: HIGH _____ LOW _____

SPEED SELECTOR SETTING: _____

PASS-THRU TIME: 6" Conveyor _____ 9" _____

HOLDING TEMPERATURE SETTING: _____

START-UP TECHNICIAN: _____

START-UP DATE: _____

COMMENTS: _____

_____

_____

_____

II. MACHINE INSTALLATION

PRE-INSTALLATION

1. After uncrating the Autobroil™ unit, inspect for shipping damage. Check that all control knobs are intact on the electrical cabinet front. Contact the factory if there are obvious problems. Set the unit in place and use the plastic bag to protect it from the debris and trash of building construction. DO NOT remove plug from gas inlet pipe. Leave this for the Qualified Service Company. Check that machine has not been dented or damaged by the carrier. Notify your freight carrier immediately to file a concealed damage claim, following the instructions attached to the outside of the shipping crate. Your warranty will not cover freight damage.

2. Installation must be performed by a Qualified Service Company. The term "Qualified Service Company" means any individual, firm, corporation or company which is either engaged in and is responsible for the installation or replacement of gas piping on the outlet side of the meter, or the service regulator when a meter is not provided, or the connection, installation or repair of gas appliances, who is experienced in such work, familiar with all precautions required, and has complied with all the requirements of the authority having jurisdiction.

3. A remote gas shut-off valve must be provided and interlocked to exhaust system when in operation.

   A gas shut-off control is located in the gas piping (behind the left side panel) for emergency shut-off of gas supply to this appliance.

4. Because this unit is power fan exhausted, it is necessary to provide adequate make up air equal to the amount removed. In addition to this, any other exhausts, flues, or air removal systems must be taken into consideration. Examples of this are heat removal fans or hot water heater flues.

5. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system attest pressures in excess of 1/2 psig (3.45 kPa).

6. The appliance must be isolated from the gas supply piping system by closing its individual shutoff valve during any pressure testing of the gas supply piping system attest pressures equal to or less than 1/2 psig (3.45 kPa).

APPLIANCE LOCATION

WARNING: IF NOT INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, THIS PRODUCT COULD EXPOSE YOU TO SUBSTANCES IN FUEL OR FROM FUEL COMBUSTION WHICH CAN CAUSE DEATH OR SERIOUS ILLNESS AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

1. Position Autobroil™ to properly align with exhaust hood (refer to equipment plan).

2. The hood/ventilator for the appliance should be located in accordance with the National Fire Protection Association Standard #96, "Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment" and any local applicable requirements.

3. For proper installation, the minimum clearance from combustible construction is 6" from sides and 6" from back.

4. Adequate clearance should be maintained to allow easy access to loading and unloading areas of the machine.

5. For servicing, unit must be moved two feet clear from all construction.

CAUTION: KEEP THE APPLIANCE AREA FREE AND CLEAR FROM COMBUSTIBLES.

ELECTRICAL INFORMATION

1. The appliance is cord connected and requires a 120 volt, A.C., 60 HZ, Single Phase, 2 wire w/ground 15 AMP circuit or a 240 volt, A.C., 50 HZ, Single Phase, 2 wire w/ground 10 AMP circuit. Appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical code ANSI/NFPA No. 70-latest edition.

2. There is a Wiring Diagram located in the Owner's Manual and inside the control cabinet.

GAS PIPING TO APPLIANCE

1. Installation of this appliance must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z-223.1-latest edition.

2. In Canada, this appliance is to be installed in accordance with Standard CGA B149.1 or B149.2 Installation Codes for gas burning appliances and equipment and any local applicable requirements.

3. The appliance is supplied with a 3/4" female pipe thread. The installer must make the pipe connection to the unit in accordance with the "National Fuel Gas Code," ANSI Z-223.1-latest edition. The gas line connected to the 3/4" female pipe thread cannot be less than a 3/4" pipe. The gas pressure and gas volume required by this appliance is shown on Page 6. Gas piping from source to broiler must be adequate to satisfy these requirements when all other gas appliances in the restaurant are operating at maximum demand.

4. A flexible AGA approved gas line is available. Instructions are (1) the installation shall be made with a connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.699-latest edition, and Addenda, Z21.69a-latest edition, and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41-latest edition, and Addenda, Z21.41 a-latest edition and Z21.41 b-latest edition, and (2) adequate means must be provided to limit the movement of the appliance without depending on the connector and the quick-disconnect device or its associated piping to limit the appliance movement. See Figure 7 for details.

5. See Page 3, Items 5 and 6, for instructions on gas supply line pressure testing.

CAUTION: DO NOT OBSTRUCT THE FLOW OF COMBUSTION AND VENTILATION AIR.

PRE-OPERATION CHECK

Before lighting and operating your Autobroii™, make a quick check of critical items as follows:

1. Remove both side panels and check to see that all parts are in place and that none are damaged.

2. Start conveyor chain and check for proper operation. The conveyor chain should run free and not be catching on anything.

3. The speed of the conveyor chain should be modulated from low to high, and back again without the chain stopping.

4. Before first use, and after any special cleaning, it is necessary to "season" the broiler chain. This is done by bringing chain to operating temperature and then (with burner still lit) applying liquid shortening from a saturated cloth over the full width of the broiler chain while the chain makes 5 or 6 complete revolutions.

5. Check that gas pressure at appliance is correct (see Performance Criteria on Page 6).

6. Check that grease pan is in place under unit (Figure 1).

LIGHTING INSTRUCTIONS FOR ELECTRONIC IGNITION SYSTEM

1. Turn exhaust system on.

2. Make sure filters are in place in the hood.

3. Turn conveyor chain on and set speed at approximate mid-point.

4. Remove left side cover.

5. Turn gas control switch on top of Honeywell valve to "ON".

6. The broiler heat switch on the control panel will now cycle the burners on and off. Set broiler temperature controller on left side of control cabinet to 400°F (190°C) (see Item 3 of setting temperature controller on Page 8).

7. Turn on heat switch. Ignition is electronic (does not require manual lighting of pilot).

8. If pilot flame or burners fail to light turn heat switch off and wait five minutes before attempting to relight.

SHUT-OFF INSTRUCTIONS

1. Turn heat switch off.

2. Wait 30 minutes.

3. Turn conveyor switch off.

4. Turn ventilator off.

PERFORMANCE CRITERIA

1. The manifold pressure for each burner and appliance inlet pressure and gas amount is listed below:

TYPE OF GAS	-	Natural or Propane
PRESSURE AT THE APPLIANCE	-	6.0-10.0 IWC for Natural
	-	11.0 IWC for Propane
MANIFOLD PRESSURE	-	Low 4.0 IWC; High 5.0 IWC for Natural
	-	Low 7.0 IWC; High 10.3 IWC for Propane
TOTAL GAS AMOUNT	-	61,000 BTUH @ 100% High Fire

Manifold pressure is measured by a pressure gauge on the outlet side of the Honeywell gas valve. With the unit on for at least twenty minutes and the broiler temperature controller set at 400°F (190°C) (see Item 3 on Page 8), the pressure should be at 4.0 IWC (7.0 IWC for propane). With the broiler temperature controller set for 800°F (412°C) the high fire pressure is 5.0 IWC (10.3 IWC for propane). High pressure is adjusted using the regulator in the top of the gas safety valve. Low fire is adjusted using the gas pressure regulator. See Figure 5 for gas system layout.

2. The burners in the appliance are a special infrared type. All of the air for combustion must be injected through the venturis. This makes orifice design and alignment very critical. The orifice design, in combination with the correct natural or propane gas pressure will result in adequate air aspiration and mixing. There are no air shutters. No air adjustment is needed. The proper orifice part numbers are found in Section VII - Replacement Parts.

CAUTION: DO NOT STACK BOXES OR IN ANY WAY BLOCK AREA IN IMMEDIATE VICINITY OF VENTURIS OR IN ANY OTHER WAY OBSTRUCT FLOW OF COMBUSTION AIR.

3. Pilot burner flame is fixed and is not adjustable.

4. All burners will be bright orange when burning properly. If a dull red is observed after 30 minutes of warm-up with a blue flame above the burner face, the orifice is not aligned properly. "Popping," or burning back at the orifice of the burner, is a result of the burner screen being loose or a faulty gasket under the burner screen. LP machines may exhibit a light "popping" sound when the unit is turned off; this is normal.

NOTE: IF BURNER SCREEN IS TORN OR HAS A HOLE, OR IF A GASKET IS LEAKING, THE BURNER MUST BE REPAIRED. See Figure 4**.**

III. OPERATING INSTRUCTIONS

BROILER ADJUSTMENT - DAILY

LIGHTING INSTRUCTIONS FOR ELECTRONIC IGNITION SYSTEM

1. Turn exhaust system on.

2. Make sure filters are in place in the hood.

3. Turn conveyor chain on and set speed at approximate mid-point.

4. Remove left side cover.

5. Turn gas control switch on top of Honeywell valve to "ON".

6. The broiler heat switch on the control panel will now cycle the burners on and off. Set broiler temperature controller on left side of control cabinet to 400°F (190°C) (see Item 3 of setting temperature controller on Page 8).

7. Turn on heat switch. Ignition is electronic.

8. If pilot flame or burners fail to light turn heat switch off and wait five minutes before attempting to relight.

SHUT-OFF INSTRUCTIONS

1. Turn heat switch off.

2. Wait 30 minutes.

3. Turn conveyor switch off.

4. Turn ventilator off.

SETTING TEMPERATURE CONTROLLER FOR PROPER HIGH/LOW OPERATION-WEEKLY

1. Follow the procedure in Step 3 on Page 8 in order to set temperature control for 400°F (190°C) doing this, turn on the broiler.

2. Allow the broiler burners and conveyor chain to warm up for 60 minutes (with the chain at approximately the correct speed).

3. Observe the temperature displayed: push "SET" and release to view the "SET POINT." To change set point push "SET" and, within three seconds, use the arrows to select a new set point. When setting the High/Low for proper operation, make the set point THE SAME as the observed temperature made after the sixty minute warming. Broiler High/Low control is now set. The setting should be between 650°F (343°C) and 800°F (412°C). If not at least 650°F (343°C), the high and low gas pressures, as discussed on Page 6 under Performance Criteria, may require adjustment or the hood exhaust may be excessive. The broiler will work but will cook slower.

4. Place one meat patty on the broiler chain. Based on the appearance of the broiled patty, reset the Digital Speed Control for the desired broiling quality. (Note: this single patty should be cooked to the maximum degree of the Minimum/Maximum doneness tolerance.)

NOTE: THE HIGHER THE NUMERICAL VALUE SET ON THE DIGITAL SPEED CONTROL, THE FASTER THE CONVEYOR CHAIN WILL RUN.

SETTING HOLDING TEMPERATURE-WEEKLY

1. The temperature controller on the front of the unit has been preset at 195°F (76°C). Push and release the "SET" button to observe the set point. If this setting has been inadvertently changed, it is necessary to reset the proper valve. This may be done using the arrows on the control within three seconds of pushing and releasing the "SET" button. Afterwards the actual temperature is displayed.

IV. SCHEDULED MAINTENANCE

DAILY CLEANING PROCEDURES

CAUTION: Do not touch the broiler section immediately after appliance shut-down. The temperature inside enclosures is in excess of 500°, which eliminates the need to clean any parts inside the enclosures for sanitary purposes. Any grease that may build up on the exterior of the enclosures should be cleaned off with a damp cloth and a minimum amount of detergent. Never **use a large amount of water on the enclosure or allow burner faces to get wet as this could cause premature burner or gasket failure. Disconnect the power supply to the appliance before cleaning or servicing.**

WARNING:	**THE BURNER AND REVERBERATING SCREENS (LOCATED UNDER THE TOP BURNERS), ARE MADE FROM INCONEL METAL MESH. THIS MATERIAL DETERIORATES WITH USE. INSPECT THESE SCREENS DAILY AND REPLACE IF SCREEN IS SEVERELY CORRODED. FAILURE TO DO SO CAN RESULT IN METAL PARTICLES BEING SERVED TO YOUR CUSTOMERS.**

CAUTION: **Under no circumstances should oven cleaner be used on this appliance. IT WILL EAT HOLES IN THE ALUMINUM GAS VALVES AND GAS LINES, CAUSTIC FUMES CAUSE ELECTRICAL COMPONENT DAMAGE, AND WILL CAUSE MANY OTHER PROBLEMS IF USED TO CLEAN THIS BROILER.**

CAUTION: KEEP THE APPLIANCE AREA FREE AND CLEAR FROM COMBUSTIBLES.

1. Allow broiler burners and chain to operate for 30 minutes after cooking last patty to burn off excess grease on broiler components. Then turn the unit off and allow to cool. (This applies every time a meat chain is turned off — regardless of what time of day meat chain is shut down - and regardless of how few patties were broiled in the last 30 minutes, last hour, etc.) This will clean some parts of the cooking chamber. Failure to perform this procedure daily will result in poor cooking times.

2. Remove all exterior panels except those which are attached with screws. Be careful not to touch any hot internal broiler components.

3. Remove burners from right side of unit and shake all debris off burners after they cool. **DO NOT WASH BURNER AS IT WILL DESTROY GASKET.** Brush surface of burner mesh with soft brush.

4. Remove lower burner shields as shown in Figure 8. Brush or scrape residue.

5. Remove the following items and wash with hot soapy water.

	Tunnel Guard Front	Figure 2
	Drip Tray & Arm Covers	Figure 2
	Rear Tunnel Plate	Figure 2
	Meat Stripper	Figure 2
	Slide Insert	Figure 3
*	Wire Rack	Figure 3
*	Grease Pan	Figure 1
	Conveyor Wiper	Figure 2
* NOTE: these items may be removed during the 30 minute period.		

6. With the conveyor switch ON and heat switch OFF, wire brush the broiler conveyor and, as it cools, wipe with damp cloth.
7. Scrape deposits from the axles with the axle scraping tool, furnished with each machine as shown in Figure 6.
8. The slide surface (Figure 3) is covered with a teflon sheet. Daily cleaning is necessary. To clean: Remove slide assembly, then remove teflon sheet by loosening **(DO NOT REMOVE)** thumb screws on slide (see Figure 3). Gently wash and rinse sheet with warm water and a mild liquid detergent. Don't scrub sheet with coarse materials. All washing should be done on a flush smooth surface, taking care not to fold, crease, or cut the teflon sheet. **DO NOT USE A DEGREASER ON THE TEFLON SHEET. THE TEFLON SHEETS' USEFUL LIFE WILL BE GREATLY REDUCED IF A DEGREASER IS USED.**
9. Remove grease and meat residue from any part of remaining broiler structure where visible. Use a damp cloth with detergent and a putty knife for best results.
10. After cleaning all removable parts as noted, allow to dry and reassemble.

MONTHLY CLEANING PROCEDURES

1. Turn off gas control knob and disconnect electricity.
2. Remove upper burners, lower burners and screens (only used on natural gas units). These parts are illustrated in Figure 2.
3. Spread conveyor links open with screwdriver or chain pliers (part #500033). Lift front axle up to make slack in the conveyor belt, unhook conveyor chain and remove to gain access to lower cooking chamber for cleaning side walls.
4. Remove and clean lower burner shields as shown in Figure 8. This can best be accomplished with a scraper.

5. Blow out all four (4) burners through the venturi opening. **CAUTION: Do not drop burners or get wet as this may break gasket or add to premature burner failure.**

6. Reassemble conveyor chain. Make certain it is not on backward (Figure 6) and **CLOSE** open links to match other links.

7. Using a damp cloth, wipe the inside of each burner venturi.
8. Reinstall burner screens, lower burner shields, and burners.

QUARTERLY CLEANING PROCEDURES & PREVENTIVE MAINTENANCE

1. Remove conveyor and soak in hot soapy water overnight. The chain is removed by lifting axle up to produce slack and separating as described in Item 3 above. When replacing chain, make certain the conveyor is installed per Figure 6. PLACING CHAIN ON BACKWARD WILL CAUSE SEVERE BINDING PROBLEMS. **CLOSE** open links to match other links.

2. Lubricate the roller (drive) chain with a few drops of any grade motor or machine oil.

3. Remove and inspect all motor brushes and replace if less than 1/4" is left.

4. Do not remove internal gas lines for cleaning.

5. Clean gas orifices:

    - Orifices are passageways directing gas flow into burner. Uneven gas flow or air to gas ratio is caused by dirty or damaged orifices.
    - Orifices are made of brass. Use special care in cleaning—don't gouge or make gas holes bigger.
    - To reach orifices, remove burners.
    - Use a pipe cleaner dipped in rubbing alcohol to clean orifices. Swab until clean; free of carbon build-up. Do not use drill bit; this damages orifice.

6. **INVENTORY THE SPARE PARTS KIT AND ORDER MISSING PARTS AS NEEDED. KEEP A COMPLETE SET OF PARTS ON HAND AT ALL TIMES.**

V. TROUBLESHOOTING

This section contains a list of possible problems with the Autobroil™ unit. ALL ELECTRICAL TROUBLE SHOOTING INVOLVING ACCESS INTO THE MOTORS OR ELECTRICAL ENCLOSURES MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN. All items marked with asterisks (*) should be performed by service agency qualified to perform service on gas fired appliances.

1. **PROBLEM: BURNER BACKFIRES.** Flashback, blue flame at entrance to burner makes motor-boating sound like a blowtorch. IMPORTANT: If burner backfires, turn it off. Continued operation will cause damage to the entire burner.

    POSSIBLE CAUSE:

* A) Burner screen failure (hole) or burner gasket. **SOLUTION:** Replace burner screen or gasket (Figure 4).

* B) Burner over-fired - manifold pressure too high. **SOLUTION:** Check and reset gas control regulator to give rating plate value for manifold pressure (shown under Performance Criteria on Page 6). Wait 5 minutes & relight. Flashback will not occur immediately unless a large opening in or around the burner screen is evident. Wait an hour after relighting to check that problem is solved. Figure 5 illustrates which regulator sets high and low gas pressures.

2. PROBLEM: FLAMES VISIBLE AT EXHAUST STACK OR IN CHAMBER.

POSSIBLE CAUSE:

* A) Low gas pressure. **SOLUTION:** Check and reset gas control regulator to give rating value for manifold pressure (shown under Performance Criteria on Page 6. Figure 5 illustrates which regulator sets high and low pressures.

3. PROBLEM: PILOT FLAME GOES OUT AFTER 90 SECONDS OF IGNITION TRIAL.

POSSIBLE CAUSE:

* A) Pilot assembly dirty or bent. **SOLUTION:** Check for bent pilot gas line and/or dislodge debris.

* B) Low gas pressure. **SOLUTION:** Increase gas pressure to appliance (see Figure 5).

* C) Pilot orifice clogged. **SOLUTION:** Dislodge debris or replace orifice.

4. PROBLEM: BURNER WILL NOT LIGHT AT ALL.

POSSIBLE CAUSE:

* A) Orifice. **SOLUTION:** Check that orifice is not plugged. (If it is necessary to change the orifices, new ones must be ordered from the factory.)

*** INSTRUCTIONS MARKED WITH ASTERISKS SHOULD BE PERFORMED BY AUTHORIZED SERVICE PERSONNEL.**

B) Check that flame runner is fully lit. **SOLUTION:** If not, clean flame runner orifice or remove and clean flame runner. Refer to Figure 2.

C) Pilot. **SOLUTION:** Pilot must light and stay lit in order for burner to light. Check pilot problem list (see Item 3 on Page 11).

* D) Gas Solenoid. **SOLUTION:** Check that solenoid valve on main gas valve is working.

5. PROBLEM: CONVEYOR CHAIN WILL NOT MOVE.

POSSIBLE CAUSE:

A) Check 10 amp fuse. **SOLUTION:** Replace if blown.

B) Check for object caught in conveyor, causing a jam. **SOLUTION:** Remove object.

D) Check to see if motor shaft is moving. **SOLUTION:** Sprocket needs to be tightened.

* E) Check rocker switch to make sure power is flowing through it. **SOLUTION:** Replace switch.

* F) Connect motor control leads to an operating motor speed control board. **SOLUTION:** If motor runs, replace motor control board. If motor still does not run, replace motor.

6. PROBLEM: NO SPEED CONTROL ON CONVEYOR.

POSSIBLE CAUSE:

* A) Either the speed control board, potentiometer or motor has failed. **SOLUTION:** Perform the following steps: connect the wires from the board on the broiler to the spare circuit board. If there is still no control, the potentiometer for the conveyor has failed.

* B) If connecting the wires into the spare board does make it work, then the circuit board has failed.

* C) . If neither of the above works, then the motor has failed. Perform the check under Item 5F on Page 12.

7. PROBLEM: REPEATED MECHANICAL BINDING.

POSSIBLE CAUSE:

A) Check to see that chain is not on backward. **SOLUTION:** See proper chain installation on Figure 6.

B) Inspect chain closely for bent or warped links that may be snagging and causing a binding condition. Also check that the chain links are not climbing out of the sprockets as the conveyor rotates. **SOLUTION:** Straighten or replace bad links.

INSTRUCTIONS MARKED WITH ASTERISKS SHOULD BE PERFORMED BY AUTHORIZED SERVICE PER

C) Make sure the axle assembly is clean and free of grease and food residue to allow smooth movement of the conveyor. **SOLUTION:** Clean axle. See Figure 6.

D) Check the axle assembly to make certain all set collars, bearings, etc. are properly positioned and secure.

E) Disassemble conveyor axle assembly and check condition of bushings and bearings for excessive wear. **SOLUTION:** Replace if worn or damaged.

F) Visually inspect the motor drive chain assembly for smooth rotation of chain. **SOLUTION:** Make certain there are no binding or worn components.

G) Make sure conveyor is not catching on meat stripper. **SOLUTION:** Reposition stripper by adjusting mounting bracket or straighten bent stripper. See instruction 5 on page 14.

H) Check that axle adjusting screw is not too tight. **SOLUTION:** Loosen so chain is not excessively tight.

8. PROBLEM: HOLDING TEMPERATURE WILL NOT REACH 195°F (76°C).

POSSIBLE CAUSE:

* A) Check that overhead ThermoGlo™ is hot. **SOLUTION:** Replace element after making sure element is receiving power.

* B) Check element connections on bottom heating element.

* C) Using a surface thermometer on top of platen, check that temperature controller is allowing platens to heat to the desired temperature.

* D) The temperature sensor attached to the bottom heated plate has failed. This condition causes the controller to flash "EEE" or "999". **SOLUTION:** Check to be sure sensor leads are securely fastened to temperature controller. If so, then replace sensor.

9. PROBLEM: HIGH/LOW CONTROL DOES NOT WORK.

POSSIBLE CAUSE:

A) Determine gas pressure by checking **gas** pressure gauge. **SOLUTION:** Adjust per instructions on Page 6.

B) If unit stays in high or low, check that control is properly set for about 750°F (384°C). **SOLUTION:** Reset to proper temperature as shown in Item 3 on Page 8.

C) If control flashes "EEE" or "999", then inspect thermocouple. **SOLUTION:** Check to be sure sensor leads are securely fastened to temperature controller. If so, then replace sensor.

INSTRUCTIONS MARKED WITH ASTERISKS SHOULD BE PERFORMED BY AUTHORIZED SERVICE PERSONNEL.

10. PROBLEM: HAMBURGERS WILL NOT FALL CORRECTLY.

POSSIBLE CAUSE:

A) Check for build-up of black residue on teflon sheet caused by lack of and/or improper cleaning. **SOLUTION:** Clean teflon sheet at least daily (See Item 7, Page 9).

B) Teflon sheet is worn or damaged. **SOLUTION:** SHEET MUST BE REPLACED.

C) Meat stripper is dirty or adjusted too far from conveyor (Figure 2). **SOLUTION:** Clean and reposition near chain by moving brackets that hold stripper. See instruction 5 on page 14.

VI. ASSEMBLY & DISASSEMBLY INSTRUCTIONS

1. The burner screen (Figure 4) may be replaced by removing the six screws from both sides of the burner housing. The assembly will then slip out. Remove all old gasketing and replace it as shown. Compress the new assembly into the burner housing with hand pressure all around the outside of the burner housing. Next, place the assembly on a flat strong surface, such as a cement floor, and push the burner housing down so as to drive the screen frame into the housing. Insert new screws and snug the screws in a staggered sequence. Do not over tighten screws. While pushing on the back of the burner housing with one hand, drive the screws in until the head of the screw comes in contact with the burner housing. These screws will keep the frame tight against the gasket.

NOTE: IT IS IMPORTANT THAT THE NEW GASKET BE HELD IN PLACE WHILE ATTACHING NEW SCREEN ASSEMBLY. THIS IS EASILY ACCOMPLISHED BY RUBBING A SMALL AMOUNT OF PETROLEUM JELLY ALONG THE INSIDE LIP OF THE BURNER HOUSING.

2. The restraining device is a separate line and should be anchored no less than 6" away from the gas connector and in a parallel position to the flexible line. The following instructions refer to Figure 7. By using the adjusting clips (1) alter the length of the cable (2) so that the overall length (3) is 3" to 6" shorter than the length of the flexible gas line including the fitting. Then attach staple (4) to an existing wall or other structurally sound surface. Attach scissor hook (5) to staple and secure with cotter pin. Finally attach spring hook (6) to gas appliance as shown in Figure 7. Make certain that the overall length of the restraining line is shorter than the gas line so no strain is placed on the gas line or piping when moving the unit.

3. When replacing the thermocouple which attaches to the temperature controller, make certain it is inserted through side wall of machine into cooking chamber exactly one inch (1").

4. Follow the procedures shown in Figure 8 for removing and cleaning lower burner shields.

5. To properly set the clearance between the meat stripper and the conveyor chain, the machine must be HOT. Loosen the bolts holding the brackets to the sides of the unit and adjust their position until the top edge of the stripper is within 1/16" of the hot conveyor.

WARNING: THIS APPLIANCE IS NOT CAPABLE OF BEING SAFELY PLACED INTO OPERATION DURING A POWER FAILURE AND NO ATTEMPT TO OPERATE IT SHOULD BE MADE.

VII. REPLACEMENT PARTS - FR69BG

When ordering parts, make sure to specify the machine model number, type of gas and serial number as shown by the label attached to the right side cover.

PART#	DESCRIPTION	FIGURE
100367	Scraper Axle	6
100977	Bearing 1.062" (Outer)	2A
101357	Bearing	2A
101978	Burner Gasket	4
104676	Conveyor Cut Link 6"	6
106476	Burner Frame Assembly	4
110042	Fan	Schematic
110417	Meat Stripper	2

111984	Grid Screen Retainer	2
114551	Temperature Control-Holding	2,Schematic
114555	Burner Cover	2
114560	Temperature Control (High/Low Gas)	2,Schematic
115354	Top Burner Mount	2
115357	Slide Insert	3
115367	Burner Assembly	2,4
115407	Side Skin	2
115412	Holding Unit Element	Schematic
115416	Tunnel Guard Front	2
115642	Burner Grid Screen	2
115709	Rear Tunnel Plate	2
115794	Teflon Grip	3
115803	Teflon Cloth 16"X25"	3
115866	Arm Cover (Left Hand)	2
115867	Arm Cover (Right Hand)	2
116024	Wire Rack	3
116056	Pilot Mount	N/A
116090	Bearing/Idler Assembly	2
116100	Flame Runner Assembly (Bottom Burners)	2
116101	Flame Runner Assembly (Top Burners)	2
116103	Burner Housing	4
116126	Thermocouple Fitting	N/A
117199	Meat Stripper Bracket (Pair)	2
117228	Control Guard	2
118025	Burner Shield	2
118731	Bearing Standoff	2A

120083	Axle Drive	2
120084	Conveyor Sprocket #5010 x 1.063"	2
120085	Conveyor Drive Sprocket #3518 x 1.063"	2A
124709	Conveyor Cut Link 9"	6
126451	Sprocket, #3518 x .755" (Conveyor Drive)	Figure 2A
127155	Cheese Shelf 16.5"	Figure 2
128118	Spare Parts Kit	N/A
128180	Conveyor Drive Shaft Assembly	2A
128190	Owner=s Manual	N/A
128762	Tube (Conveyor Sleave)	2A
130657	Kit, Motor Reversing	N/A
500001	Burner Screw	4
500023	Conveyor 6"(Per Foot)	6
500024	Conveyor 9"(Per Foot)	6
500033	Pliers Chain Conveyor	6
500035	Chain Roller #35	N/A
500040	Sprocket #3510 X .500" (Motor)	N/A
500063	Fuse 10 Amp	Schematic
500067	Fuse Block	Schematic
500070	Gas Gauge (Natural)	5
500071	Gas Gauge (LP)	5
500083	Link Half (Drive Chain)	N/A
500092	Link Master (Drive Chain)	N/A
500112	Potentiometer Digital	2
500118	Set Collar 3/4"	2A
500174	Gas Line Flex 36" With Restraint Dormant	7
500186	Gas Regulator VR-48 (Natural)	5

500187	Gas Regulator VR-48 (LP)	5
500294	Terminal Strip 6 Pole	N/A
500336	Gas Line Restraining Device RD-36	7
500340	Terminal Strip 3 Pole	N/A
500657	BellReducer 3/4"-1/2"	5
500811	Tool Box (Optional with Spare Parts)	N/A
500940	Drive Motor	Schematic
500941	Motor Brushes for Motor ASPEC 29894G@	N/A
501012	Thumb Screw 1/4"-20	3
501614	Module Ignition (Electronic Spark)	Schematic
501624	Circuit Board	Schematic
501723	Pilot Head Igniter (Natural)	Schematic
501747	Transformer 120V - 24V	Schematic
501762	Pilot Head Igniter (LP)	Schematic
501835	Grease Pan	1
501864	Switch	2,Schematic
502075	Cord (Domestic)	Schematic
502169	Sensor	Schematic
502188	Gas Valve (Natural)	5
502189	Cable Pilot Head	Schematic
502197	Thermocouple Type K	2,Schematic
502208	Gas Valve (LP)	5,Schematic
502248	Transformer 120V-12V	Schematic
502261	Pipe Corrugated X 7" (3/8" Fl. X 3/8" Fl.)	N/A
502347	Pipe Corrugated X 17" (3/8" Fl. X 3/8" Fl.)	5
502349	Pipe Corrugated X 26" (3/8" Fl. X 3/8" Fl.)	N/A
502395	Sprocket 5010 x 3/4	2A

502472	ThermoGloJ Element	Schematic
502611	Solenoid Valve 120 Volt Coil	5,Schematic
503287	Brush Motor for Motor AType 24Y2FETM-D4"	N/A
503413	Kit, Temp Control Faceplate Deg F Ref: 132574	N/A

PART #	DESCRIPTION	FIGURE
NATURAL GAS ORIFICES		
500102	Orifice #50 (Top Burners)	N/A
500879	Orifice #47 (Bottom Burners)	N/A
500979	Orifice Flame Runner #72 (Bottom Burners)	N/A
501709	Orifice Pilot Burner	N/A
501718	Orifice Flame Runner #70 (Top Burners)	N/A
LP GAS ORIFICES		
124582	Burner Gasket 1/4" Thick	4
500105	Orifice #55 (Bottom Burners)	N/A
500928	Orifice #57 (Top Burners)	N/A
501710	Orifice Pilot Burner	N/A
502661	Orifice Flame Runner #78 (Bottom Burners)	N/A
502661	Orifice Flame Runner #78 (Top Burners)	N/A

BROILER LIMITED WARRANTY

MARSHALL AIR SYSTEMS, INC., ("Marshall") warrants to the first purchaser ("Purchaser") all new equipment of its manufacture to be free of defects in material and factory workmanship for a period of one year' from date of shipment provided that (i) the equipment is installed in the Continental United States, Canada or Hawaii and operated according to the Owner's Manual while located at the original address of installation, (ii) the warranty registration card has been completed and returned to the factory within fifteen (15) days after installation, and (iii) a post-installation start-up has been performed by an authorized service representative (portable equipment not applicable). Marshall's obligation under this warranty is limited to the repair or replacement at its option of any defective part. Under certain circumstances, Marshall will reimburse Purchaser for limited labor costs in replacing parts during a period of not more than ninety (90) days after date of shipment, provided that Labor Reimbursement instructions are followed and items i, ii, and iii above are completed. See special provision for portable equipment. It is understood that Marshall's obligation with respect to equipment located outside the Continental United States, Canada or Hawaii is limited to replacement parts only.

"The following broiler parts have a six month part warranty:

- Burner Shields and Screens
- Burner Grids
- Burner Gaskets
- Electric Broiler Elements
- Flame Runners

Because Marshall does not and cannot control Purchaser's installation, use, and maintenance of equipment manufactured by Marshall, this warranty DOES NOT COVER:

Any equipment calibration;

Any component disassembled in the field;

Damage due to improper cleaning and/or abuse, i.e. burner rotation, grease accumulation in electrical components or plugs (hosing or "watering down" equipment will cause electrical failures not covered by warranty);

Blown fuses or bulbs, motor brushes and Teflon components;

Any replacement parts used on the equipment which are not purchased from Marshall;

Accessory components not installed or manufactured by Marshall.

Shipping damage must be reported to the carrier and is not covered under this warranty. Marshall will not be liable for damage as a result of improper installation, misuse, abuse, alteration of original design, incorrect voltage, unauthorized service, breakage of fragile items, or any other damage caused by an act out of Marshall's control.

The effect of corrosion, fire, and normal wear on the equipment or component parts is not covered by this warranty. This warranty does not cover cooking performance, smoke capture or holding temperatures which is a function of food types, textures, temperatures, equipment line ups and other variables chosen by the Purchaser and over which Marshall has no control. This warranty does not apply to damage caused by accident or to damage caused by the negligence of Purchaser or the employees of Purchaser or to damage caused by lightning generated electrical current or any other Act of God whatsoever. This warranty does not apply to any equipment bearing a serial number which has been tampered with or altered. Marshall reserves the right to accept or reject any such claim in whole or in part. Marshall will not accept the return of any product without prior written approval from Marshall, and all such approved returns shall be made at Purchaser's sole expense.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT INFRINGEMENT, AND EXCEPT FOR THE EXPRESS WARRANTY CONTAINED HEREIN, THE EQUIPMENT IS SOLD "AS IS." REMEDIES UNDER THIS WARRANTY AND UNDER ANY WARRANTY THAT MAY SURVIVE THE DISCLAIMER OF WARRANTIES ARE LIMITED EXCLUSIVELY TO THOSE REMEDIES DESCRIBED ABOVE. NO OTHER REMEDY IS AVAILABLE UNDER THIS WARRANTY OR ANY OTHER WARRANTY. NEITHER THIS WARRANTY NOR ANY OTHER WARRANTY COVERS, AND MARSHALL WILL NOT BE RESPONSIBLE FOR, ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO THE COST OF DISASSEMBLY AND SHIPMENT OF THE EQUIPMENT, PRODUCTION OR PRODUCT LOSSES, INJURY TO OTHER PROPERTY, OR LOST PROFITS RESULTING FROM THE USE OF OR INABILITY TO USE THE PRODUCTS OR FROM THE PRODUCTS BEING INCORPORATED IN OR BECOMING A COMPONENT OF ANY OTHER PRODUCT OR GOODS, OR OTHER LOSSES. WHERE, DUE TO OPERATION OF LAW, CONSEQUENTIAL AND INCIDENTAL DAMAGES CANNOT BE EXCLUDED, THEY ARE EXPRESSLY LIMITED IN AMOUNT TO THE PURCHASE PRICE OF THE EQUIPMENT.

FOR INTERNATIONAL INSTALLATIONS -- PLEASE CONTACT YOUR LOCAL MARSHALL AIR SYSTEMS RECOGNIZED DISTRIBUTOR.

BROILER WARRANTY PROCEDURES

RETURN GOODS AUTHORIZATION FOR PARTS - FACTORY DIRECT

For prompt warranty parts replacement and RGA processing, please call Marshall's Customer Service Department at 800-722-3474 or 704-525-6230 for assistance. In all cases, a Return Goods Authorization (RGA) number must be issued by Marshall Air Systems, Inc. Unauthorized returns will not be processed.

Option #1: Purchaser to return part prepaid to Factory, Marshall to repair or replace at own expense if defective, and ship part back to Purchaser prepaid.

Option #2: Marshall to furnish replacement part freight prepaid with or without requesting return of the defective part.

WARRANTY LABOR REIMBURSEMENT AND/OR PARTS REPLACEMENT THROUGH RECOGNIZED MAINTENANCE & REPAIR CENTERS

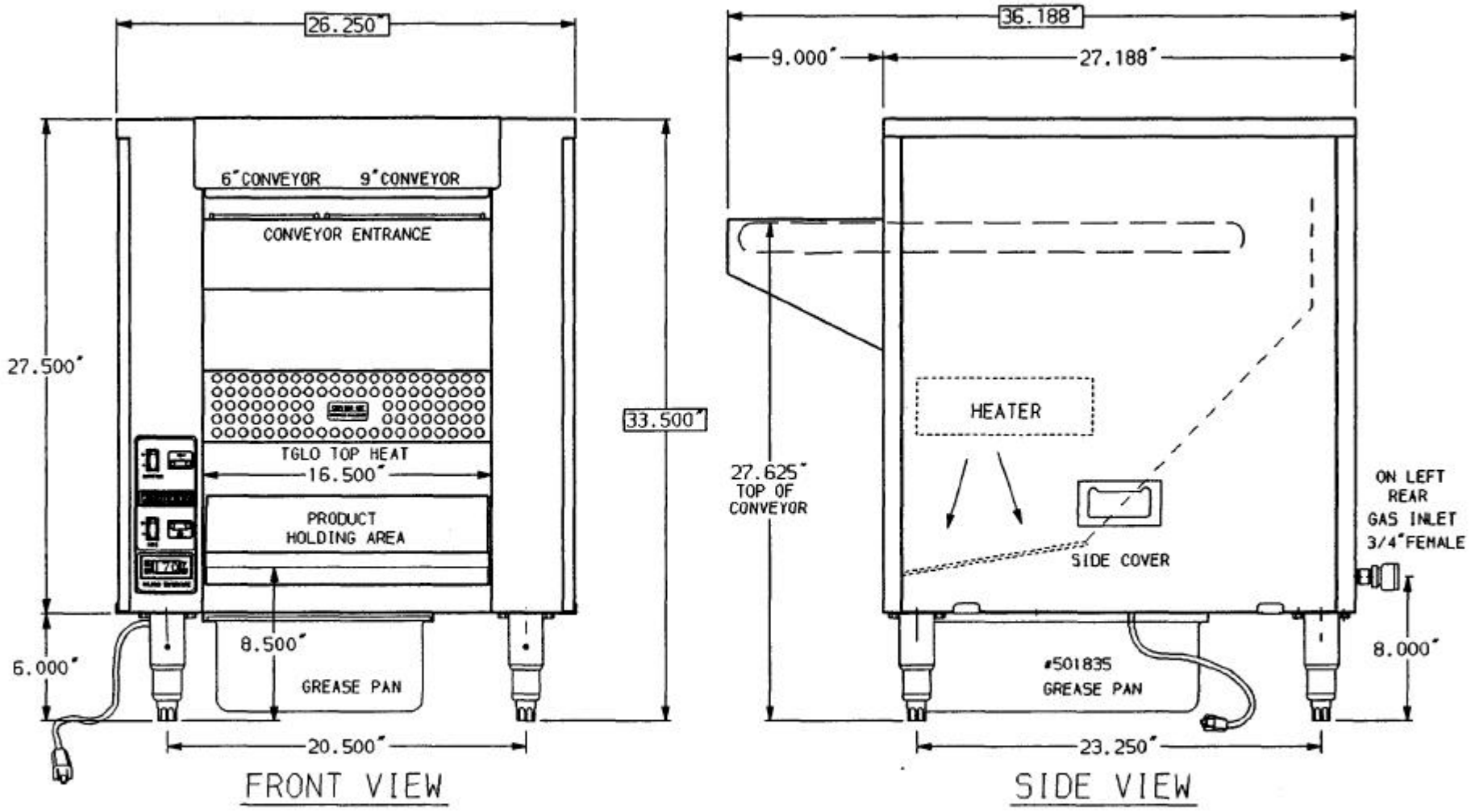
Normally, labor will be covered under the start up fee. In the unlikely event this does not apply, consult Marshall Air Systems, Inc. To be reimbursed for warranty labor costs, authorization must be given by Marshall Air Systems, Inc. Unauthorized work will not be reimbursed. Work must be performed by a Marshal] Air Systems Recognized Service Agency within the service time allowance guidelines and must be submitted along with failed parts (if applicable) to Marshall Air Systems (freight prepaid) within 30 days of the work being performed. Travel is covered, but must not exceed 50 miles or 1 hour, whichever is greater. Call Marshall's Service Department at 800-722-3474 or 704-525-6230 with any questions. Service is to be performed by recognized service agencies during normal working hours. Owner to pay for all other charges including excessive, travel or overtime charges. **DIAGNOSTIC LABOR CHARGES ARE INCLUDED IN SERVICE TIME ALLOWANCE GUIDELINES.** All portable equipment (under 90 pounds) shall be delivered by Purchaser, at his/her expense, to the nearest authorized service agency for in-shop repair or at purchaser's discretion he/she will pay all travel time and mileage expenses for portable equipment.

NON-WARRANTY RETURNS:

All items returned for customer convenience are subject to a 20% restocking fee. In the event of an error by Marshall Air Systems, Inc., a Returned Goods Authorization will be issued for full credit.

FOR INTERNATIONAL INSTALLATIONS - PLEASE CONTACT YOUR LOCAL MARSHALL AIR SYSTEMS RECOGNIZED DISTRIBUTOR.

MODEL: FR69BG



GAS BROILER (COOKING) & ELECTRIC (HOLDING UNIT)

NATURAL GAS BTUH: 61,000 MANIFOLD PRESSURE: 5/4
PROPANE GAS BTUH: 61,000 MANIFOLD PRESSURE: 10.3/7
VOLTS: 120 PHASE: 1 HZ: 60 AMPS: 8
OR VOLTS: 240 PHASE: 1 HZ: 50 AMPS: 4

FIGURE 1

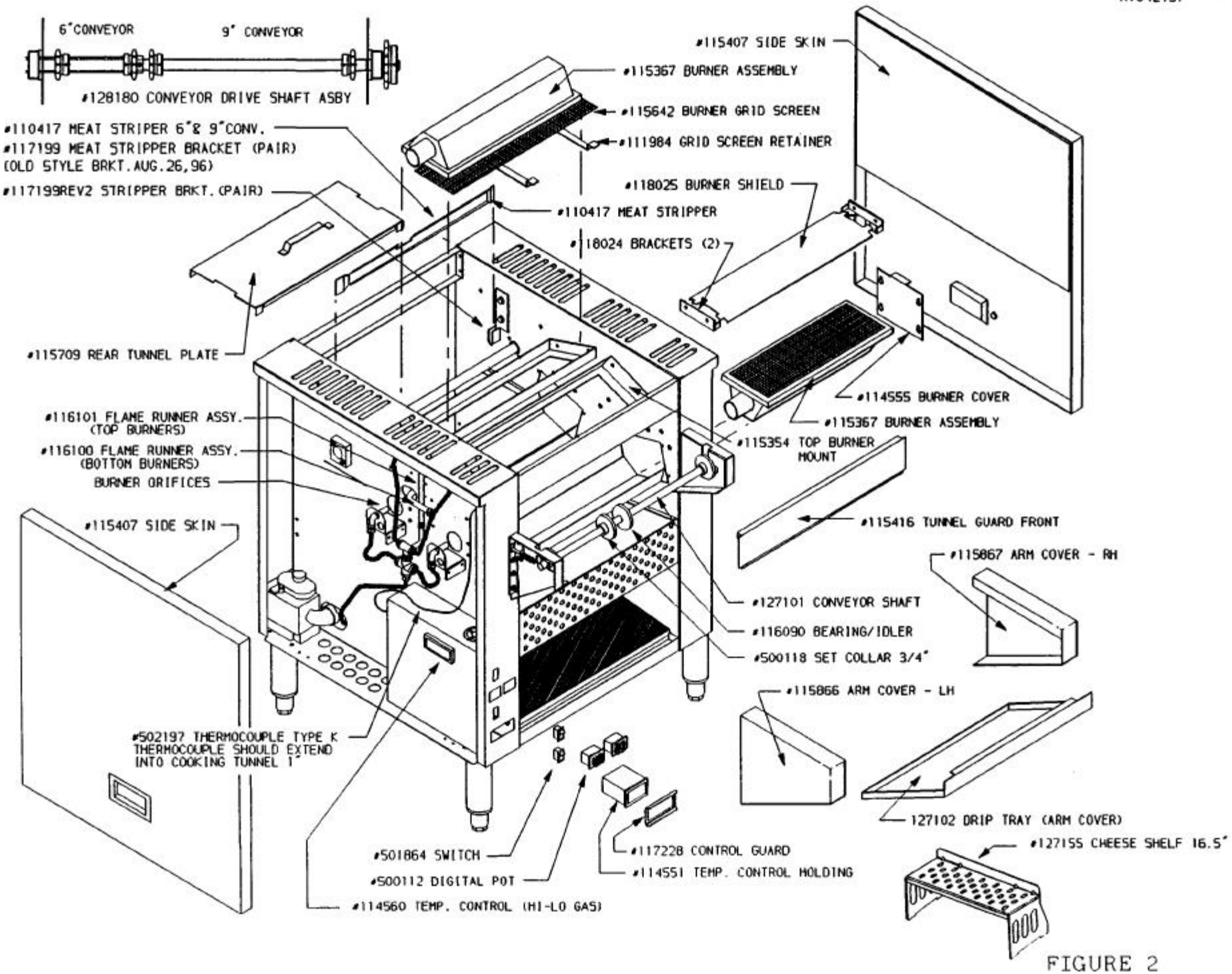
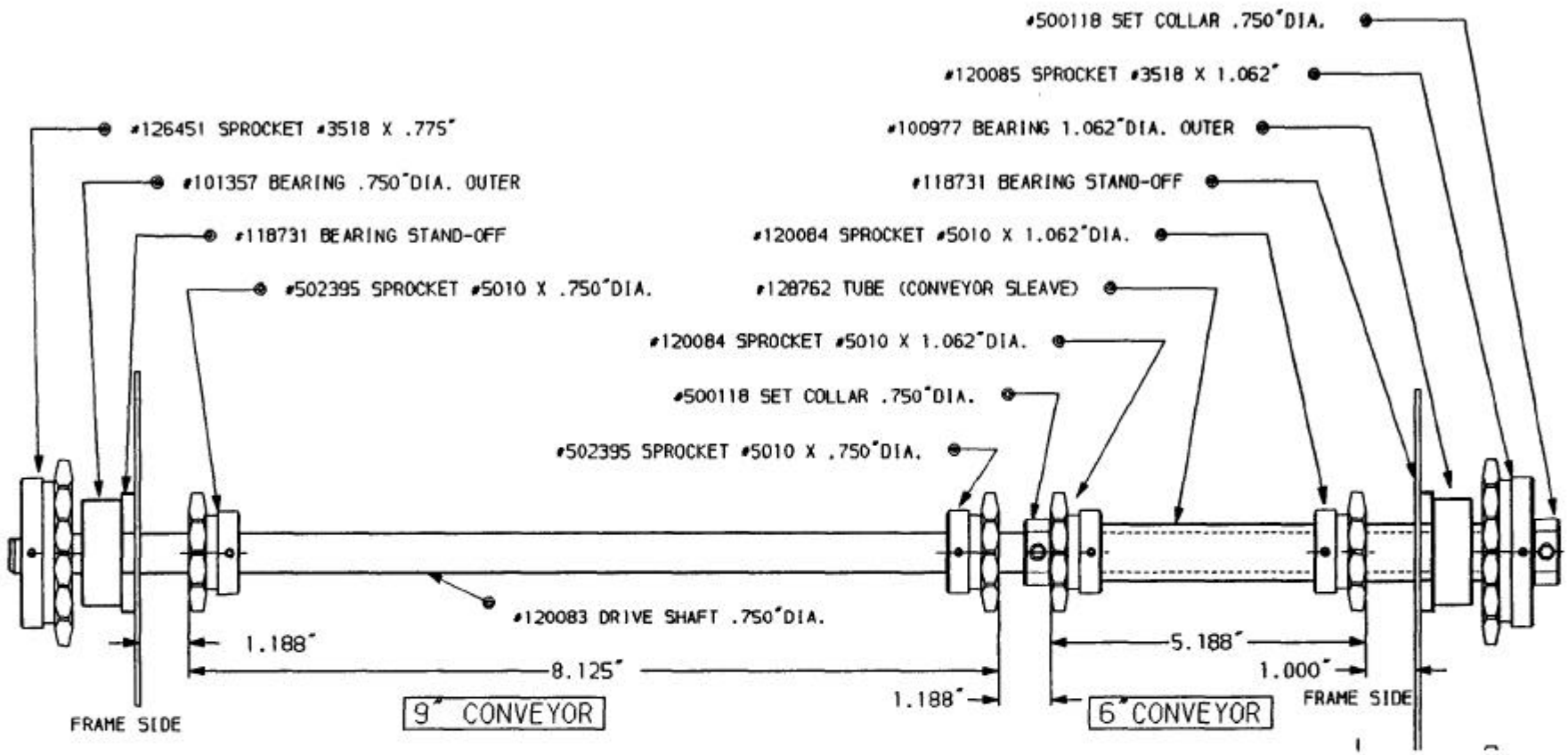
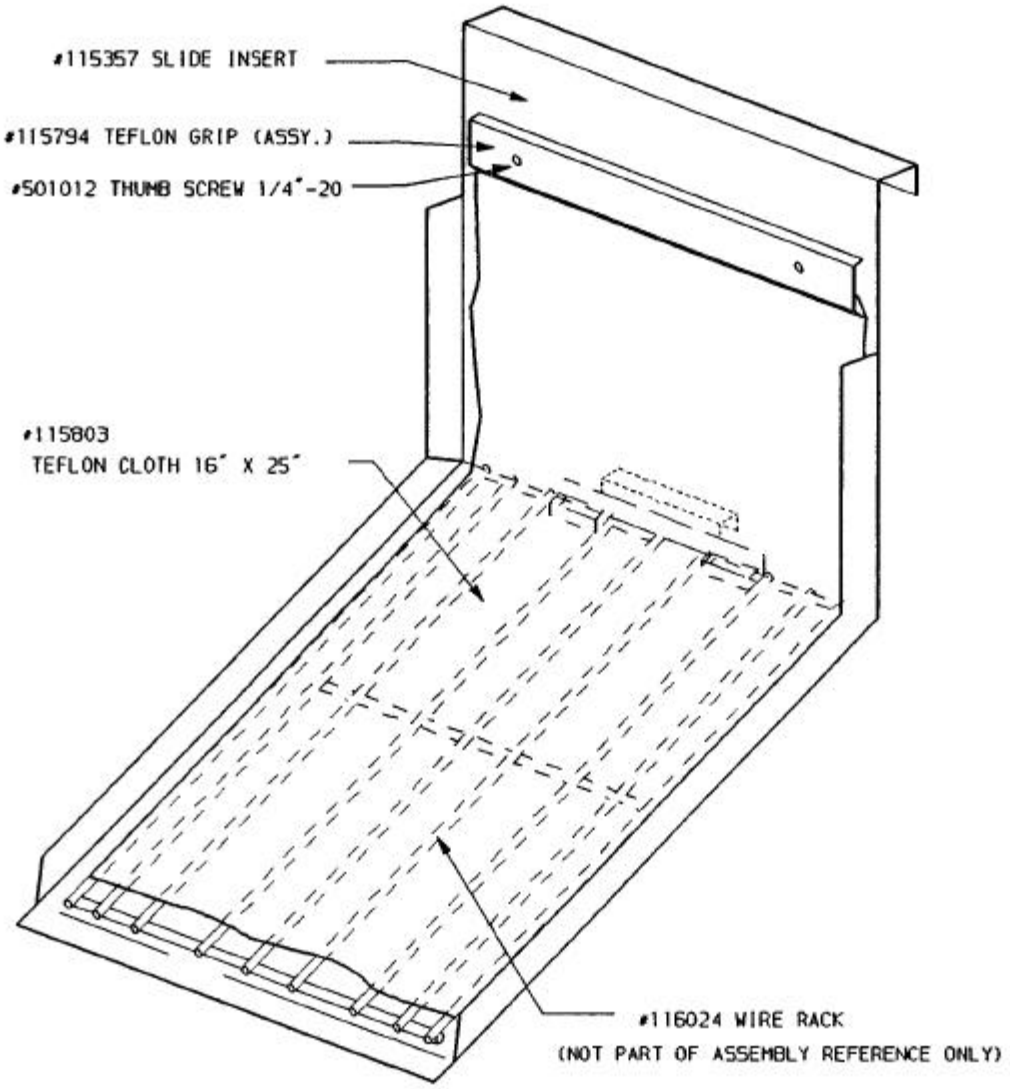

6"CONVEYOR
9" CONVEYOR
#128180 CONVEYOR DRIVE SHAFT ASBY
#110417 MEAT STRIPER 6"& 9"CONV.
#117199 MEAT STRIPPER BRACKET (PAIR)
(OLD STYLE BRKT.AUG.26,96)
#117199REV2 STRIPPER BRKT. (PAIR)
#115709 REAR TUNNEL PLATE
#116101 FLAME RUNNER ASSY. (TOP BURNERS)
#116100 FLAME RUNNER ASSY. (BOTTOM BURNERS)
BURNER ORIFICES
#115407 SIDE SKIN
#502197 THERMOCOUPLE TYPE K
THERMOCOUPLE SHOULD EXTEND INTO COOKING TUNNEL 1"
#501864 SWITCH
#500112 DIGITAL POT
#114560 TEMP. CONTROL (HI-LO GAS)
#115367 BURNER ASSEMBLY
#115642 BURNER GRID SCREEN
#111984 GRID SCREEN RETAINER
#110417 MEAT STRIPPER
#118024 BRACKETS (2)
#115407 SIDE SKIN
#118025 BURNER SHIELD
#114555 BURNER COVER
#115367 BURNER ASSEMBLY
#115354 TOP BURNER MOUNT
#115416 TUNNEL GUARD FRONT
#115867 ARM COVER - RH
#127101 CONVEYOR SHAFT
#116090 BEARING/IDLER
#500118 SET COLLAR 3/4"
#115866 ARM COVER - LH
127102 DRIP TRAY (ARM COVER)
#127155 CHEESE SHELF 16.5"
#117228 CONTROL GUARD
#114551 TEMP. CONTROL HOLDING

FIGURE 2



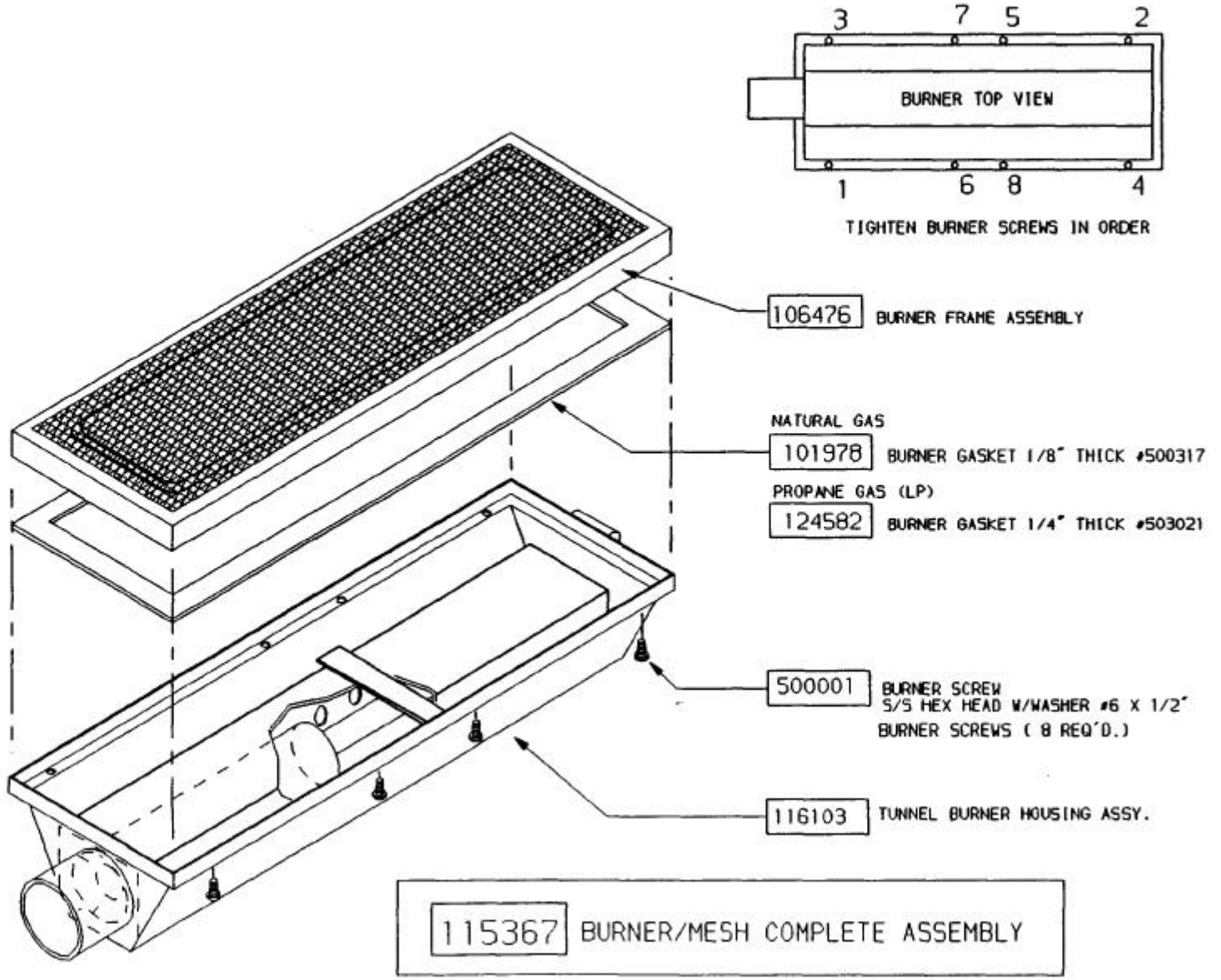
DRIVE AXLE ASSEMBLY

FIGURE 2A



#115799 SLIDE ASSEMBLY

FIGURE 3



BURNER DETAIL

FIGURE 4

① 3/8" FLEX CONDUIT RUN FROM SELENOID TO CONTROL BOX.

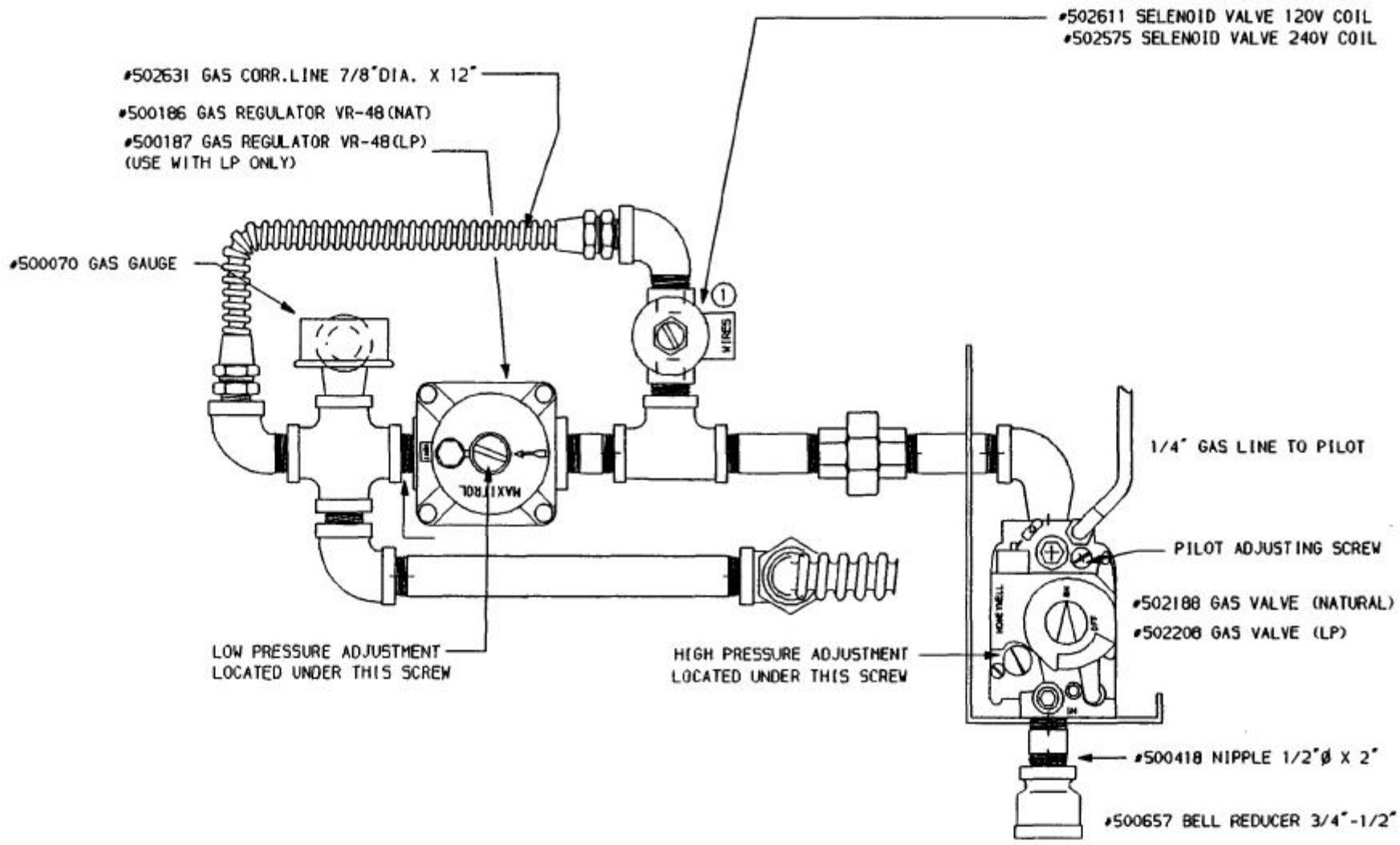
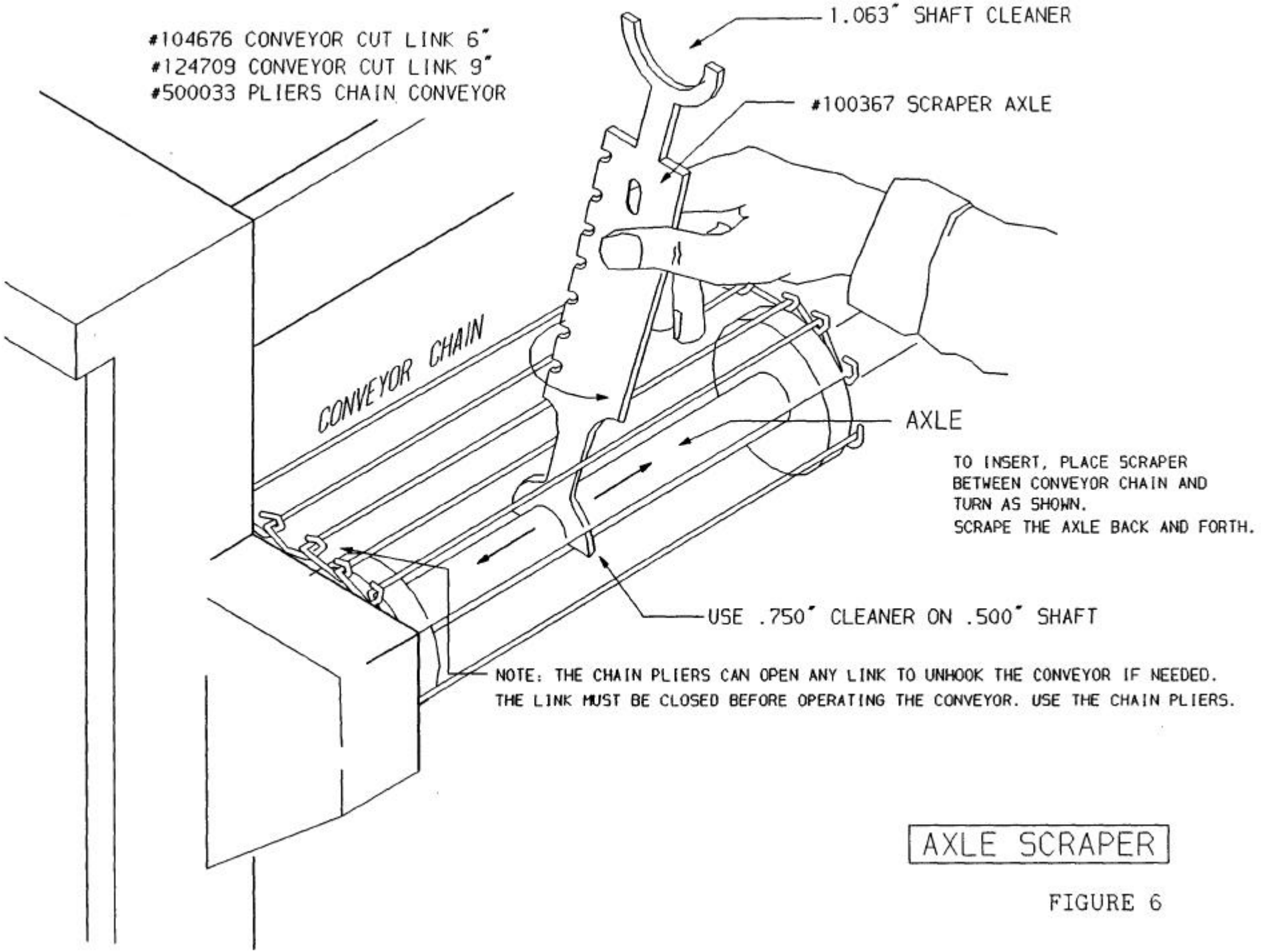


FIGURE 5

128190FIG6
RV020299



AXLE SCRAPER

FIGURE 6

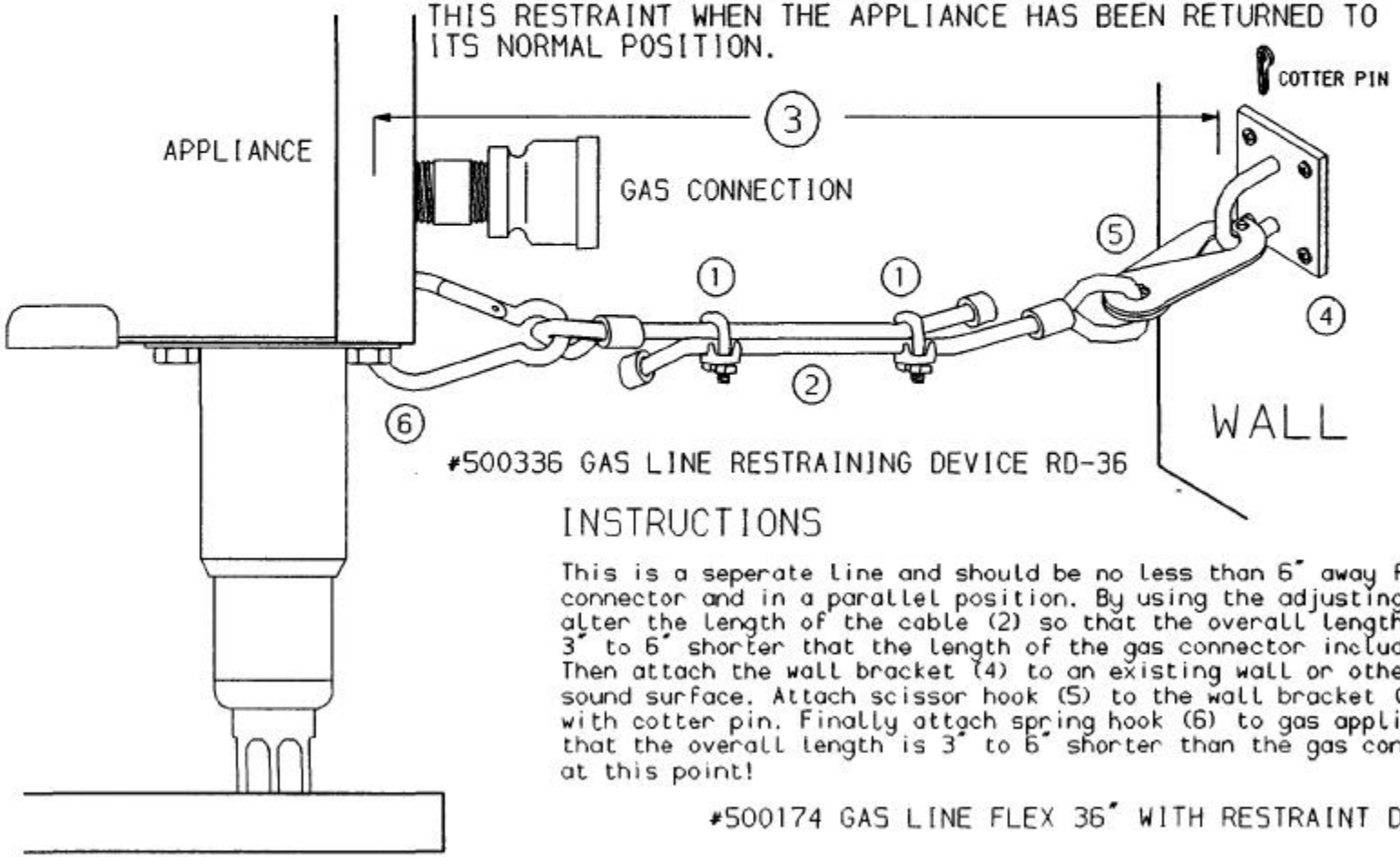
RESTRAINING DEVICE

(FOR USE WITH MOVABLE GAS APPLIANCES)

Per ANSI Regulations Under:

Z-21.69-1979 & Z-21.69a-1983 (CONNECTORS)
Z-21.41b-1983 (QUICK DISCONNECT DEVICES)
With current revisions.

NOTE: THIS RESTRAINING DEVICE MUST ALWAYS BE CONNECTED WHEN THE APPLIANCE IS IN SERVICE. DISCONNECT FOR MOVEMENT SUCH AS SERVICING OR CLEANING. THEN RECONNECT THIS RESTRAINT WHEN THE APPLIANCE HAS BEEN RETURNED TO ITS NORMAL POSITION.



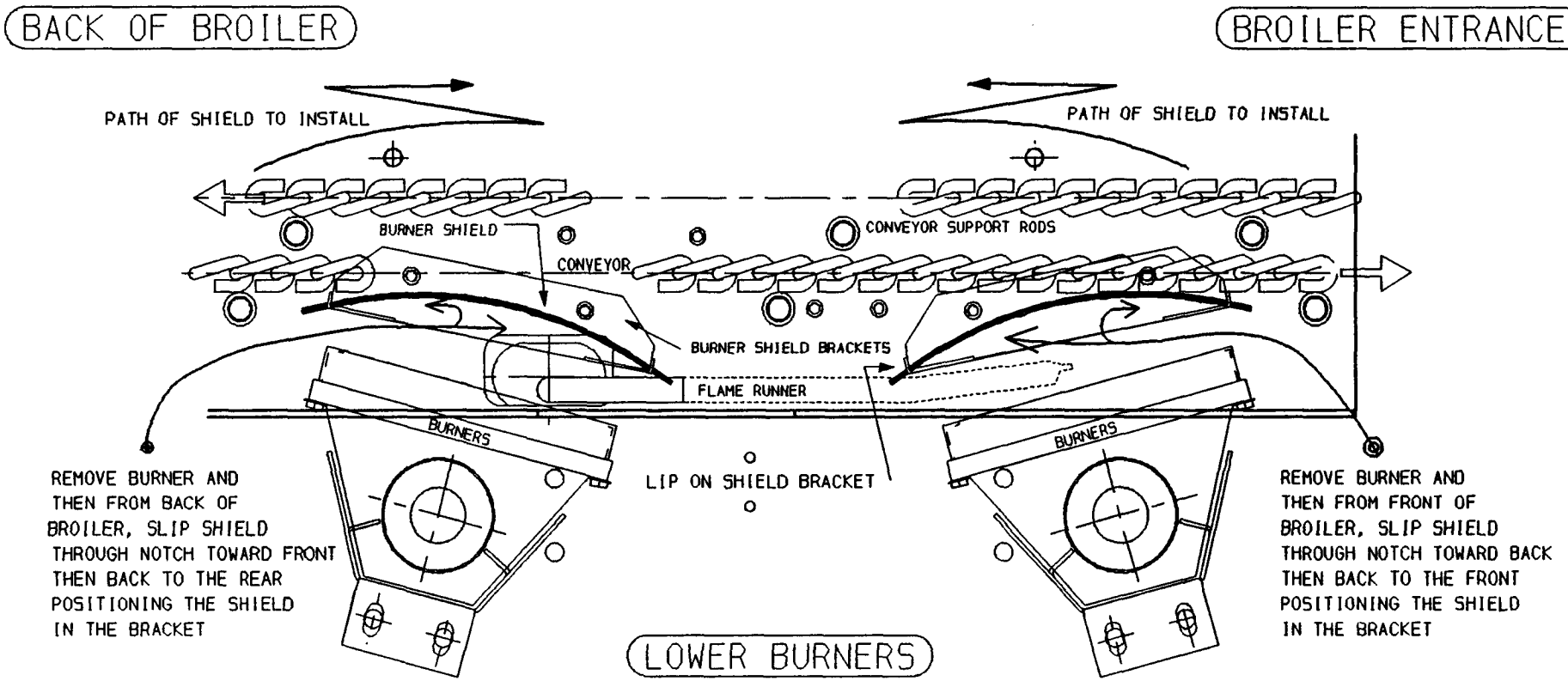
#500336 GAS LINE RESTRAINING DEVICE RD-36

INSTRUCTIONS

This is a seperate line and should be no less than 6" away from the gas connector and in a parallel position. By using the adjusting clamps (1) alter the length of the cable (2) so that the overall length (3) is 3" to 6" shorter that the length of the gas connector including the fittings. Then attach the wall bracket (4) to an existing wall or other architecturally sound surface. Attach scissor hook (5) to the wall bracket (4) and secure with cotter pin. Finally attach spring hook (6) to gas appliance. Make certain that the overall length is 3" to 6" shorter than the gas connector at this point!

#500174 GAS LINE FLEX 36" WITH RESTRAINT DORMONT

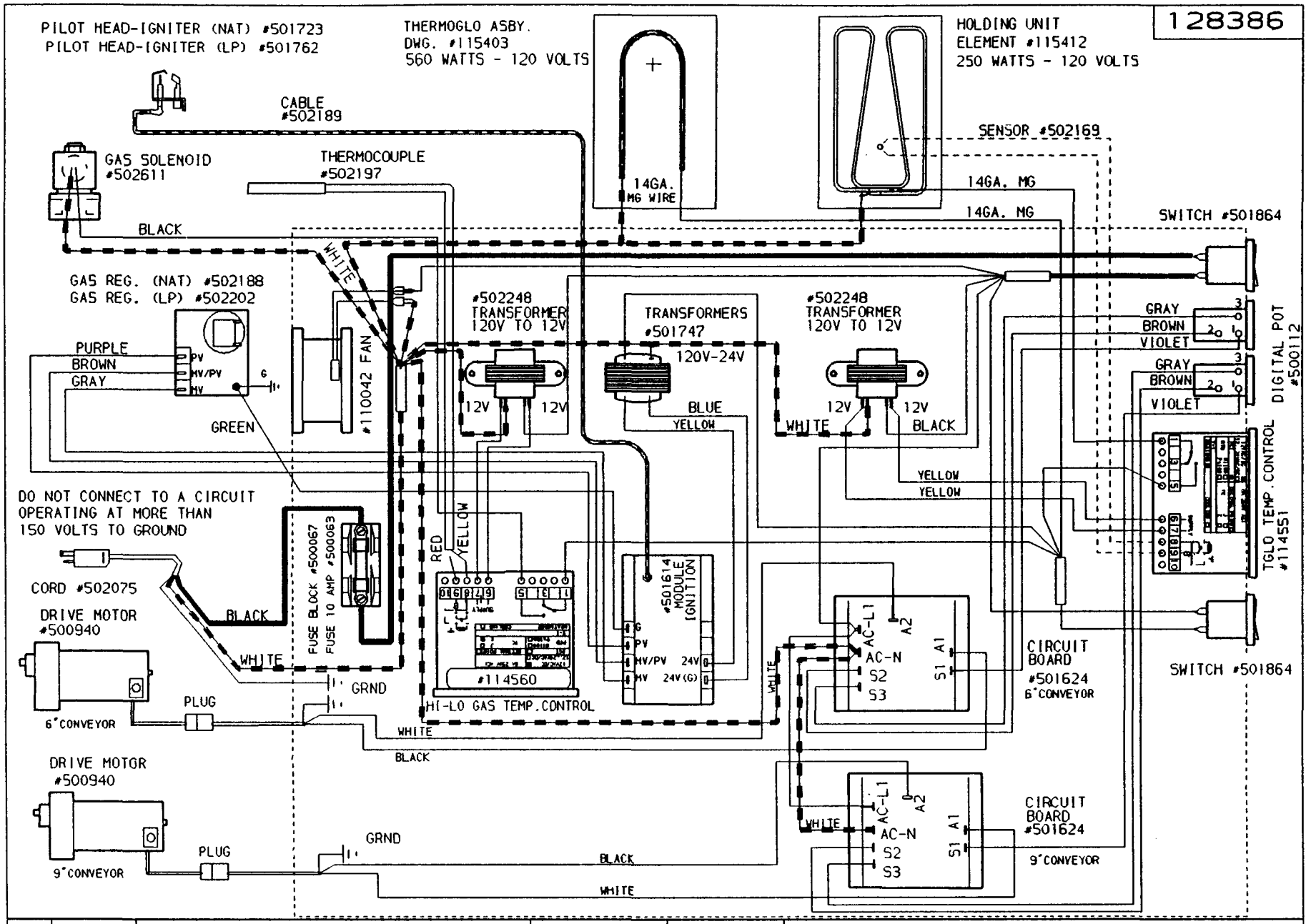
FIGURE 7



1. LOWER BURNER SHIELDS SHOULD BE REMOVED FOR CLEANING COOKING RESIDUE FROM THEIR UPPER SURFACE
2. WHEN REINSTALLING MAKE CERTAIN SHIELDS ARE NOT BENT OR TWISTED
3. SHIELD MUST REST IN BURNER SHIELD BRACKET AND BE TRAPPED BY LIP ON BRACKET

#118025 LOWER BURNER SHIELD

FIGURE 8



REV	DATE	DESCRIPTION	C.P.	07-MAY-96	MARSHALL AIR SYSTEMS, INC.	
1	30-JUN-97	ADDED THERMOGLO ASBY AND NUMBER (BL)				
2	12-AUG-97	CORRECTED MODULE IGNITION CONNECTIONS (BL)			SCHEMATIC FR69BG (HEATED HOLDING)	
			120V, 60HZ, 1PH, 8AMPS		CODE: AE9E	DWG NO. 128386 REV. 2

PLOTTED 12-AUG-97 BY B. L.